Amendments to the Specification:

Please replace the Abstract with the following rewritten Abstract. A clean copy is attached.

-- ~~The invention relates to packet control units, a~~ A traffic management system ~~(TMSYS)~~ and a method for managing in a network ~~(RDN)~~ ~~the~~ object traffic formed on a physical layer ~~(PL). In the physical layer (PL) these objects move~~ along path sections between individual path points ~~(Px, Pa, Pb, Pc)~~. The traffic management system comprises a packet switched control network ~~(PSCN)~~ including said packet control units ~~(Rx, Ra, Rb, Rc)~~ on a traffic control layer ~~(TCL)~~ in which packets moving along packet routing links between packet control units ~~(Rx, Ra, Rb, Rc)~~ simulate the movement of corresponding objects in the physical layer ~~(PL)~~. If the arrival of an object ~~(C)~~ is detected at a path point ~~(e.g. Px)~~ and the arrival of a corresponding packet is not detected at a packet control unit ~~(Rx)~~ corresponding to the path point ~~(Px)~~, a synchronization ~~synchronisation~~ device ~~(SYNC)~~ in a packet control unit sends ~~(e.g. Ra) causes the sending of~~ a packet corresponding to the object to the packet control unit ~~(Rx)~~ corresponding to the path point ~~(Px)~~ at which the object ~~(C)~~ has arrived. Thus, avoiding non-synchronous ~~out of synchronisation~~ states between the packet routing and object movement ~~can be avoided. The invention is particularly useful for managing the vehicle traffic of vehicles moving along roads in a road network~~. --

~~(Fig. 3)~~

Please amend the second paragraph on page 2 of the application as follows:

-- Such traffic management systems are described in the European patent applications No. 00 125 249.3 and EP No. 00 125 248.5 by the same applicant ~~which are herewith incorporated by reference in their entirety~~.--

Please amend the second paragraph beginning on page 6 as follows:

--This object is also solved by a traffic management system for managing in a network the object traffic formed, on a physical layer, by a plurality of objects moving along a

plurality of path sections of the network and a plurality of path points located at said path sections of the network, and each path point having associated with it a traffic information unit adapted at least to detect the arrival of objects at the respective path point and to output a corresponding object arrival information, comprising:
a packet switched control network on a traffic control layer in which the packet traffic constituted by a plurality of packets being routed along a plurality of packet routing links is controlled by a plurality of packet control units located at said packet routing links for controlling the packet traffic in said packet switched control network such that each packet routed along a respective packet routing link corresponds to one object moving on a corresponding path section; each packet control unit being ~~constituted as defined in claim 1 or claim 2 or claim 3~~ and being adapted to send, with the respective transmission device, as a source packet control unit respective packets onto a packet routing link to a succeeding target packet control unit on the basis of a respective routing decision in accordance with a predetermined packet routing method used in said packet switched control network for the controlling of said packet traffic; wherein said packet switched control network on the traffic control layer is configured in such a way that packet routing links correspond to path sections; and packet control units correspond to path points; wherein when a traffic information unit detects the arrival of an object at its associated path point and outputs a corresponding object arrival information, and an arrival packet control unit corresponding to said path point does not detect the arrival of a packet corresponding to said object, a <u>synchronization</u> ~~synchronisation~~ packet control unit is adapted to send a packet corresponding to said object to said arrival packet control unit to synchronize the packet routing and the object movement. –

Please amend the following paragraph beginning on page 8 as follows:
-- This object is also solved by a traffic management system for managing in a network the object traffic formed, on a physical layer, by a plurality of objects moving along a plurality of path sections of the network and a plurality of path points located at said path sections of the network, and each path point having associated with it a traffic

information unit adapted at least to detect the arrival of objects at the respective path point and to output a corresponding object arrival information, comprising: a packet switched control network on a traffic control layer in which the packet traffic constituted by a plurality of packets being routed along a plurality of packet routing links is controlled by a plurality of packet control units located at said packet routing links for controlling the packet traffic in said packet switched control network such that each packet routed along a respective packet routing link corresponds to one object moving on a corresponding path section; each packet control unit being ~~constituted as defined in claim 1 or claim 2 or claim 3 and being~~ adapted to send, with the respective transmission device, as a source packet control unit respective packets onto a packet routing link to a succeeding target packet control unit on the basis of a respective routing decision in accordance with a predetermined packet routing method used in said packet switched control network for the controlling of said packet traffic; wherein said packet switched control network on the traffic control layer is configured in such a way that packet routing links correspond to path sections: and packet control units correspond to path points; wherein when a traffic information unit detects the arrival of an object at its associated path point and outputs a corresponding object arrival information, and an arrival packet control unit corresponding to said path point does not detect the arrival of a packet corresponding to said object, a <u>synchronization</u> ~~synchronisation~~ packet control unit is adapted to send a packet corresponding to said object to said arrival packet control unit to synchronize the packet routing and the object movement.

Please amend the paragraphs beginning on page 12 as follows:

Fig. 5a shows a principle overview of the re-synchronization mechanisms and the ~~synchronisation~~ methods in the traffic management system including packet control units in accordance with the first , second and third aspect ~~(claim 1, 2, 3)~~ of the invention;

Fig. 6a, 6b illustrates a first embodiment of the traffic management system TMSYS in accordance with the invention, showing in particular the case when an object stored at a source packet control unit [[Ra]] is sent to a packet control unit R̶x̶,̶ R̶b̶ which corresponds to the path point P̶x̶,̶ P̶b̶ at which the object has a̶r̶r̶i̶v̶e̶d̶ ̶(̶i̶n̶ ̶F̶i̶g̶.̶ ̶6̶a̶,̶ ̶R̶x̶ ̶i̶s̶ ̶a̶n̶ e̶x̶a̶m̶p̶l̶e̶ ̶o̶f̶ ̶t̶h̶e̶ ̶p̶a̶c̶k̶e̶t̶ ̶c̶o̶n̶t̶r̶o̶l̶ ̶u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶2̶ ̶a̶n̶d̶ ̶R̶a̶ ̶i̶s̶ ̶a̶n̶ ̶e̶x̶a̶m̶p̶l̶e̶ ̶o̶f̶ ̶t̶h̶e̶ ̶p̶a̶c̶k̶e̶t̶ ̶c̶o̶n̶t̶r̶o̶l̶ u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶1̶ ̶o̶r̶ ̶4̶;̶ ̶i̶n̶ ̶F̶i̶g̶.̶ ̶6̶b̶,̶ ̶R̶b̶ ̶i̶s̶ ̶a̶n̶ ̶e̶x̶a̶m̶p̶l̶e̶ ̶o̶f̶ ̶t̶h̶e̶ ̶p̶a̶c̶k̶e̶t̶ ̶c̶o̶n̶t̶r̶o̶l̶ ̶u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶2̶ ̶o̶r̶ ̶5̶ a̶n̶d̶ ̶R̶a̶ ̶i̶s̶ ̶a̶n̶ ̶e̶x̶a̶m̶p̶l̶e̶ ̶o̶f̶ ̶t̶h̶e̶ ̶p̶a̶c̶k̶e̶t̶ ̶c̶o̶n̶t̶r̶o̶l̶ ̶u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶1̶)̶;

Fig. 7a, 7b show a second embodiment of the traffic management system TMSYS in accordance with the invention, in particular showing the case where a copy of a packet is stored at a source packet control unit R̶a̶ ̶(̶F̶i̶g̶.̶ ̶7̶a̶)̶ and packet link information PLI is used to identify the packet control unit [[Rb]] to which the packet was sent (̶F̶i̶g̶.̶ ̶7̶b̶)̶ ̶(̶i̶n̶ F̶i̶g̶.̶ ̶7̶a̶,̶ ̶R̶a̶ ̶i̶s̶ ̶a̶n̶ ̶e̶x̶a̶m̶p̶l̶e̶ ̶o̶f̶ ̶t̶h̶e̶ ̶p̶a̶c̶k̶e̶t̶ ̶c̶o̶n̶t̶r̶o̶l̶ ̶u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶1̶ ̶a̶n̶d̶ ̶6̶ ̶a̶n̶d̶ ̶R̶x̶ ̶i̶s̶ ̶a̶n̶ e̶x̶a̶m̶p̶l̶e̶ ̶o̶f̶ ̶t̶h̶e̶ ̶p̶a̶c̶k̶e̶t̶ ̶c̶o̶n̶t̶r̶o̶l̶ ̶u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶2̶;̶ ̶i̶n̶ ̶F̶i̶g̶.̶ ̶7̶b̶,̶ ̶R̶a̶ ̶i̶s̶ ̶a̶n̶ ̶e̶x̶a̶m̶p̶l̶e̶ ̶o̶f̶ ̶t̶h̶e̶ ̶p̶a̶c̶k̶e̶t̶ c̶o̶n̶t̶r̶o̶l̶ ̶u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶1̶ ̶a̶n̶d̶ ̶7̶ ̶a̶n̶d̶ ̶R̶b̶ ̶i̶s̶ ̶a̶n̶ ̶e̶x̶a̶m̶p̶l̶e̶ ̶o̶f̶ ̶t̶h̶e̶ ̶p̶a̶c̶k̶e̶t̶ ̶c̶o̶n̶t̶r̶o̶l̶ ̶u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶1̶)̶;

Fig. 8 shows a third embodiment of the traffic management system TMSYS in accordance with the invention, showing in particular the case where object arrival signals sig1, sig2, sig2' are broadcast to succeeding packet control units R̶a̶,̶ R̶b̶.̶ R̶c̶ to find out at which packet control unit the sent packet r̶e̶s̶i̶d̶e̶s̶ ̶(̶i̶n̶ ̶F̶i̶g̶.̶ ̶8̶,̶ ̶R̶a̶ ̶i̶s̶ ̶a̶n̶ ̶e̶x̶a̶m̶p̶l̶e̶ o̶f̶ ̶t̶h̶e̶ ̶p̶a̶c̶k̶e̶t̶ ̶c̶o̶n̶t̶r̶o̶l̶ ̶u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶1̶,̶ ̶8̶,̶ ̶1̶3̶ ̶a̶n̶d̶ ̶1̶4̶ ̶a̶n̶d̶ ̶R̶x̶ ̶i̶s̶ ̶a̶n̶ ̶e̶x̶a̶m̶p̶l̶e̶ ̶o̶f̶ ̶t̶h̶e̶ ̶p̶a̶c̶k̶e̶t̶ c̶o̶n̶t̶r̶o̶l̶ ̶u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶2̶)̶;

Fig. 9a, 9b show a <u>fourth</u> f̶o̶r̶t̶h̶ embodiment of the traffic management system TMSYS in accordance with the invention, in particular showing the case of a re-synchronization if an out of synchronization problem occurs because an object stops movement between two path points (̶i̶n̶ ̶F̶i̶g̶.̶ ̶9̶a̶,̶ ̶R̶a̶ ̶i̶s̶ ̶a̶n̶ ̶e̶x̶a̶m̶p̶l̶e̶ ̶o̶f̶ ̶a̶ ̶p̶a̶c̶k̶e̶t̶ ̶c̶o̶n̶t̶r̶o̶l̶ ̶u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶3̶ ̶a̶n̶d̶ ̶9̶;̶ ̶i̶n̶ F̶i̶g̶.̶ ̶9̶b̶,̶ ̶R̶b̶ ̶i̶s̶ ̶a̶n̶ ̶e̶x̶a̶m̶p̶l̶e̶ ̶o̶f̶ ̶a̶ ̶p̶a̶c̶k̶e̶t̶ ̶c̶o̶n̶t̶r̶o̶l̶ ̶u̶n̶i̶t̶ ̶o̶f̶ ̶c̶l̶a̶i̶m̶ ̶3̶)̶; and

Fig. 10 shows a fifth embodiment of the traffic management system TMSYS, in accordance with the invention, in particular showing the case where an out of synchronization state is present due to the occurrence of the new object in the physical layer ~~(in Fig. 10, any of the packet control units Ra, Rb, Rc, Rd and even Rx is an example of a packet control unit of claim 1 and 10)~~.